Bureau of Land Management (BLM) Alaska
Arctic District Office

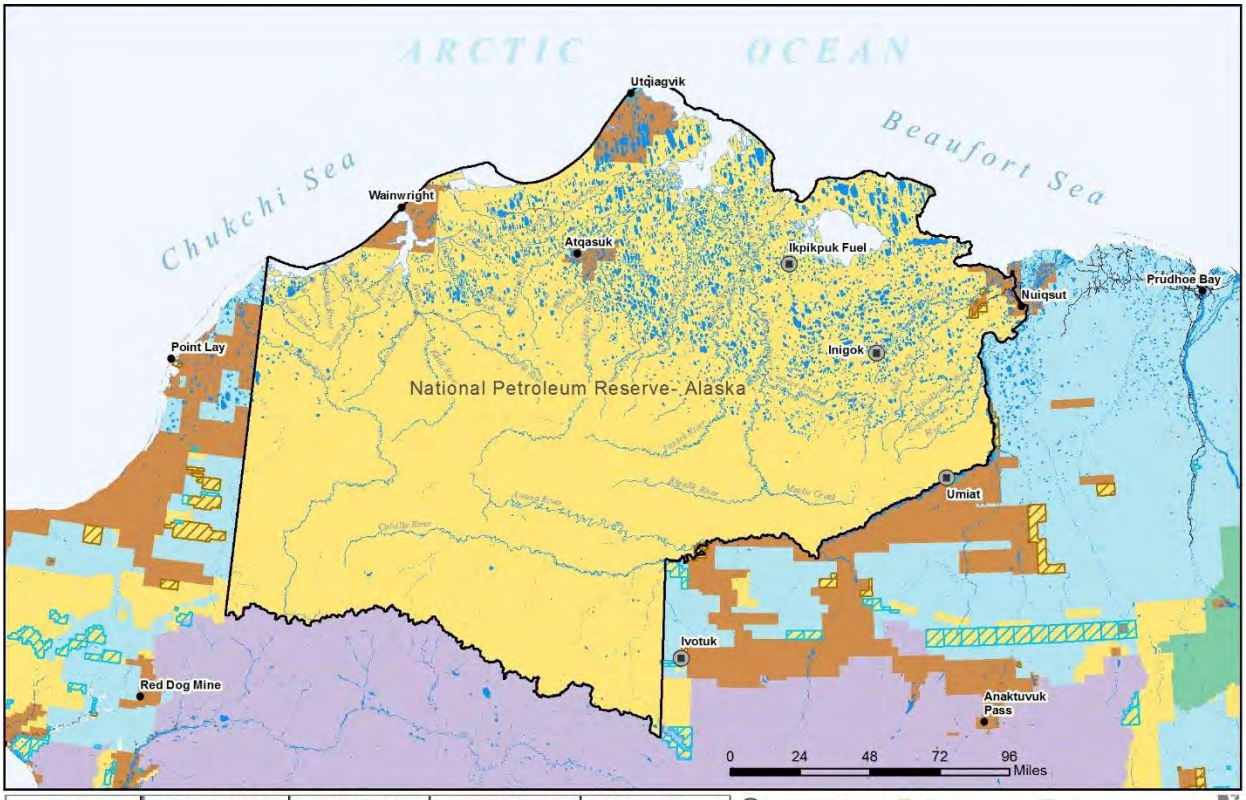
February 2023

Update on BLM North Slope Permitting and Activities

BLM Arctic District Office Management Overview

The BLM's Arctic District Office, based in Fairbanks, Alaska, manages 22.6 million acres of public lands within the National Petroleum Reserve in Alaska, an additional 1 million acres of surface management outside of the NPR-A, and 1.6 million acres of subsurface estate in the Coastal Plain area of the Arctic National Wildlife Refuge, all on Alaska's North Slope.

The BLM assumed management of the NPR-A in 1976 when the Naval Petroleum Reserves Production Act (NPRPA) transferred the Reserve from the Navy to the Department of Interior, and the NPRPA is the guiding legislation for oil and gas leasing, exploration and development within the Reserve.

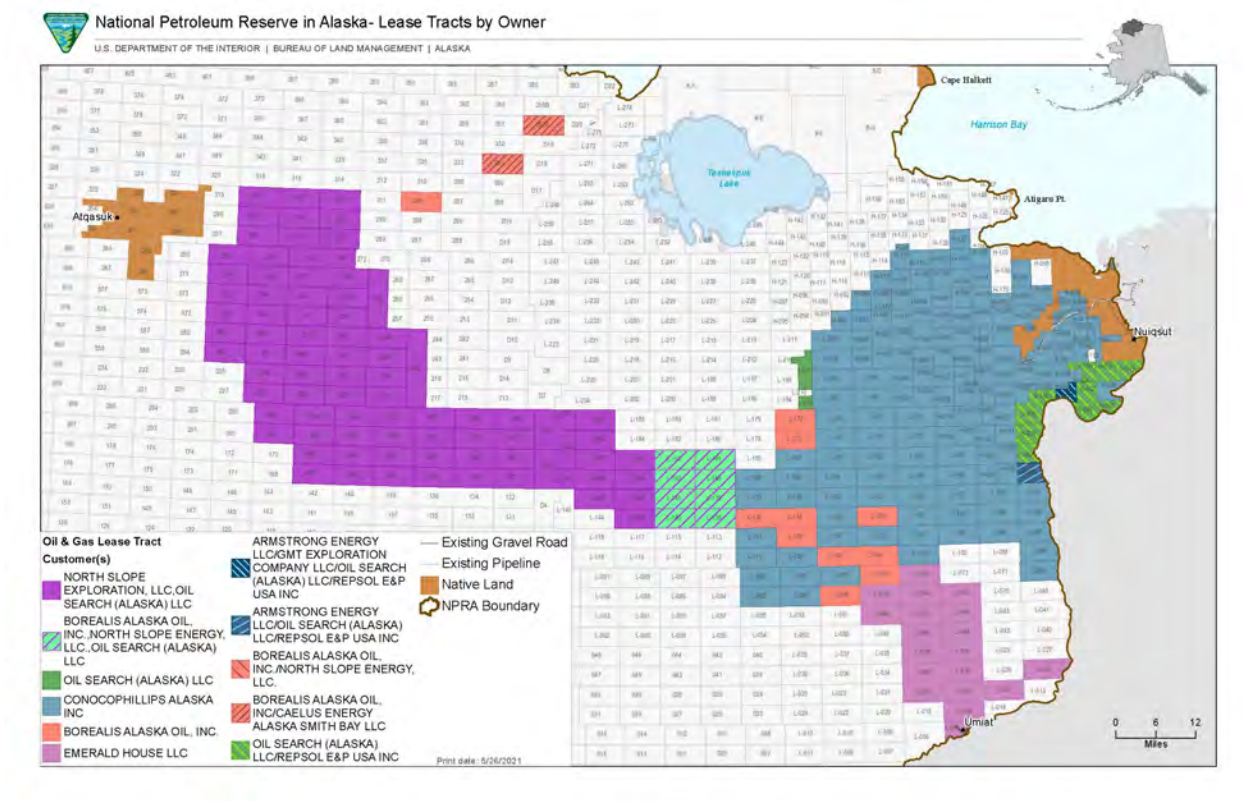


CAMP	LATDECMIN	LONDECMIN	LATDDWGS84	LONDDWGS8
Umiat	69° 22.270'	-152° 8.148'	69.371167	-152.1358
Inigok	70° 0.290'	-153° 5.270'	70.004833	-153.087833
Ivotuk	68° 28.000'	-155° 45.000'	68.466667	-155.75
Ikpikpuk Fuel	70° 27.290'	-154° 20.071'	70.454831	-154.334513

The NPR-A includes approximately 23 million acres of public lands and constitutes the largest contiguous block of public lands managed anywhere in the United States. Four predominantly Iñupiaq (Alaska Native) communities (Utqiaġvik, Atqasuk, Nuiqsut, and Wainwright) and their corresponding Alaska Native Claims Settlement Act village corporation lands are located within the NPR-A. The Arctic Office has a Field Station in Utqiagvik (Barrow) and in Nuiqsut and two remote logistic facilities in NPR-A: Inigok and Umiat.

In the northeast corner of the NPR-A, oil development is expanding westward from the Colville River Delta. There are currently 293 leases covering 2,593,249 acres in the NPR-A and ConocoPhillips Alaska, Inc. (CPAI) is the largest leaseholder (167 out of 305 leases).

For oil production, Greater Mooses Tooth-1 was approved in 2015 as a 12-acre pad which at full capacity can hold 33 wells. Currently 7 wells have been drilled for production of the Lookout Participating Area. Production began in October 2018, peaked at approximately 13,500 barrels per day but has since dropped to roughly 2,500 barrels per day. Greater Mooses Tooth-2- was approved in 2018 as a 14-acre pad that can hold up to 48 wells. It produced first oil December 12, 2021, estimated peak production is 30,000 BPD.



NPR-A Leases as of January 2022

The Arctic District Office also manages the Central Arctic Management Area (CAMA) Wilderness Study Area (WSA), which consists of eight separate tracts of land (totaling 259,000 acres) located between the NPR-A and the Dalton Corridor. Subsistence hunting and personal recreation are allowed in the WSA, and the BLM authorizes land use of the area for commercial activities such as float trips, wildlife viewing and guided hunts. Within CAMA is also the 29,000-acre Nigu-Iteriak Critical Environmental Concern (ACEC) that was established to protect geological and cultural resources. Arctic District also manages the CAMA's Mesa Site, which is the first well-documented Paleoindian site discovered in the North American Arctic and a key source of information about the peopling of the new world. There are no facilities, maintained trails or roads leading to or within the

CAMA. Recreational vehicle use is limited to subsistence users; other users typically access the area via aircraft and raft.

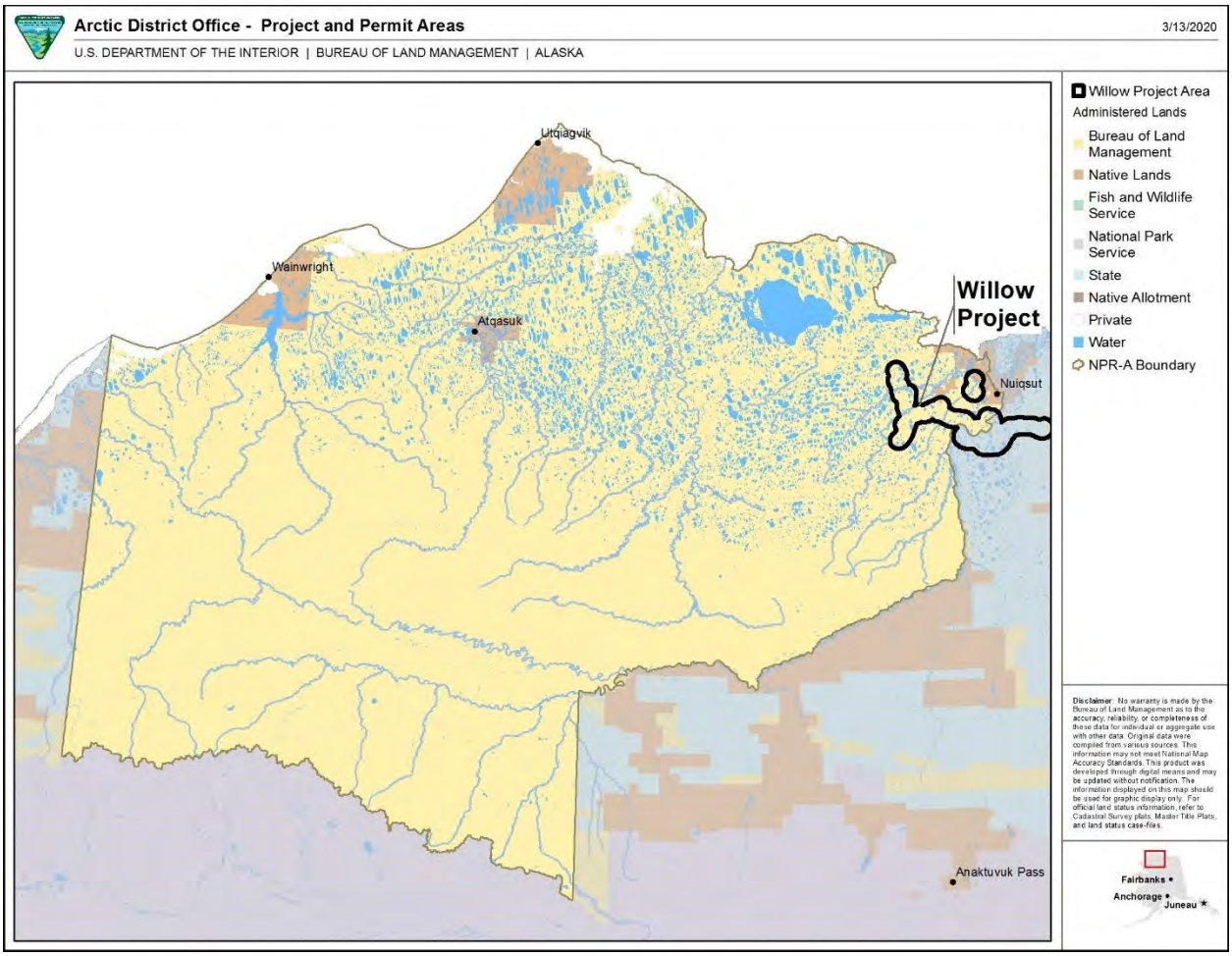
Ongoing and Recently Completed Permits and Projects[1]

BLM's Arctic District Office generally completes 40-50 National Environmental Policy Act (NEPA) actions annually, including numerous Categorical Exclusions and Environmental Assessments, for a variety of different projects including activities related to oil and gas development, special recreation permits (SRPs), Rights-of-Ways (ROWs) and permits for research. Staff worked on 3 large-scale Environmental Impact Statements (EISs) in 2022, two of which are ongoing. Many of the office's ongoing and recent permits are described below.

Willow Prospect Master Development Plan Environmental Impact Statement

The BLM initiated a master development plan EIS to evaluate development of the Willow oil prospect in August 2018. The proposed Willow project consists of a central processing facility, infrastructure pads, up to five drill pads with up to fifty wells on each pad, access and infield roads, an airstrip, pipelines, a gravel mine, and updates to an existing dock at Oliktok Point to support module delivery via sealift barges. The BLM published the Willow Master Development Plan Final Environmental Impact Statement (EIS) on August 14, 2020, and signed the Record of Decision in October 2020.

[1] *This is not a complete list. See BLM's online NEPA page for all permitting*: https://eplanning.blm.gov/epl-frontoffice/eplanning/lup/lup_register.do



Location of the Willow Master Development Plan Project Area

The BLM was sued for failure to comply with the National Environmental Policy Act in producing the Willow EIS and a stay was issued for the Willow project in February 2021 while the lawsuit proceeded through the court system. A subsequent ruling from the Alaska District Court in August 2021 remanded the EIS to the BLM to address two identified deficiencies related to the range of alternatives and the analysis of foreign greenhouse gas emissions. The Biological Opinion for the Willow project was also remanded to the USFWS.

The BLM developed a new alternative (Alternative E) in response to the Court's ruling and published a Draft Supplemental EIS on July 15, 2022 for a 45-day public comment period, which ended on August 29, 2022. The new alternative reduces the total number of drill sites to four and made other project refinements to reduce impacts consistent with the Court's direction. BLM is working on preparing responses to public comments and anticipates publishing the Final Supplemental EIS expeditiously. There is a mandatory 30-day waiting period between the publication of the Final SEIS and the issuance of a Record of Decision. For more information, contact the BLM's project manager, Carrie Cecil, at ccecil@blm.gov.

Oil and Gas Leasing Program for the Coastal Plain of the Arctic National Wildlife Refuge

In September 2019 and in connection with Public Law 115-97 (Tax Act), the BLM completed the Coastal Plain Oil and Gas Leasing Final Environmental Impact Statement (EIS) and then issued a Record of Decision (ROD) in August 2020. The Tax Act established that the Secretary of the Interior, acting through the BLM, shall establish a competitive oil and gas program for the leasing, development, production, and transportation of oil and gas in and from the Coastal Plain of the Arctic National Wildlife Refuge (Coastal Plain). Per the Tax Act, the Secretary shall manage the oil and gas program in the Coastal Plain in a manner similar to the administration of lease sales under the Naval Petroleum Reserves Production Act of 1976 (NPRPA). The Tax Act included the requirement to hold not fewer than two area-wide lease sales within 10 years. The 2020 ROD approved a program to implement the Tax Act. The first lease sale was held on January 6, 2021. On January 19, 2021, the BLM issued leases on nine of the tracts. On June 1, 2021, the Secretary of the Interior issued Secretary's Order 3401 which directed "a temporary halt on all Department activities related to the leasing program in the Arctic Refuge pending a new, comprehensive analysis of the potential environmental impacts of the Program to address identified legal deficiencies. On August 4, 2021, a Notice of Intent was published in the Federal Register kicking off the Supplemental EIS (SEIS) process. The comment period for this scoping period ended on October 4, 2021.

The purpose of the public supplemental EIS process was to determine the scope of issues to be addressed and to identify the significant issues, including any legal deficiencies in the 2019 Final EIS/2020 ROD, related to an oil and gas leasing program within the Coastal Plain.

Supplemental analysis may include (but is not limited to):

- Revision of reasonably foreseeable development (RFD) and areas available for leasing
- An alternative allowing for less than 2,000 acres of surface development
- Updated analysis of greenhouse gas emissions
- New information related to subsistence resources (e.g., fish, marine mammals, caribou) and subsistence use/access
- A wider range of potential development outcomes
- Revision of lease stipulations and required operating procedures

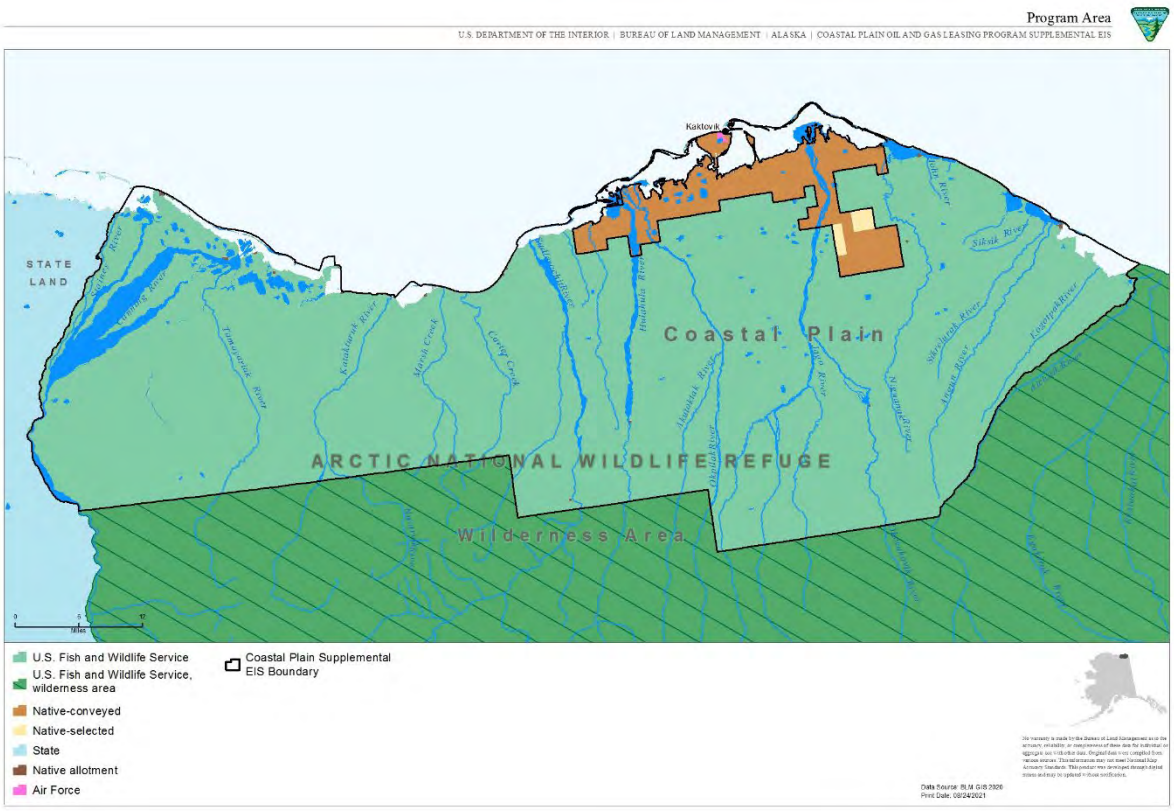
The USFWS is now a joint-lead on the development of the SEIS (they served as a cooperating agency on the EIS). The cooperating agencies currently are the State of Alaska, the Native Village of Venetie Tribal Government, the Venetie Village Council, the Arctic Village Council, The Native Village of Kaktovik, The Inupiat Community of the Arctic Slope, and the Environmental Protection Agency. New cooperating agencies can be added at any time if they have special expertise or jurisdiction by law over a resource/issue covered by the SEIS.

Information received during the scoping process is helping to develop the SEIS and guide the scope of the environmental analysis. The BLM and USFWS continue to work collaboratively with interested parties to identify the management decisions best suited to local, regional, and national needs and concerns.

We expect the Draft Preliminary SEIS to be available to cooperating agency review in the first quarter of 2023, and the Draft SEIS available to the public in the second quarter of 2023 for a minimum 45-day comment period.

For additional information please refer to the project NEPA Register (ePlanning) websites at:

- August 2020 Record of Decision: https://eplanning.blm.gov/eplanning-ui/project/102555/510
- Supplemental EIS: https://eplanning.blm.gov/eplanning-ui/project/2015144/510



Land Status within the Coastal Plain Leasing EIS

For more information, contact Serena Sweet at ssweet@blm.gov, or Stephanie Kuhns at skuhns@blm.gov.

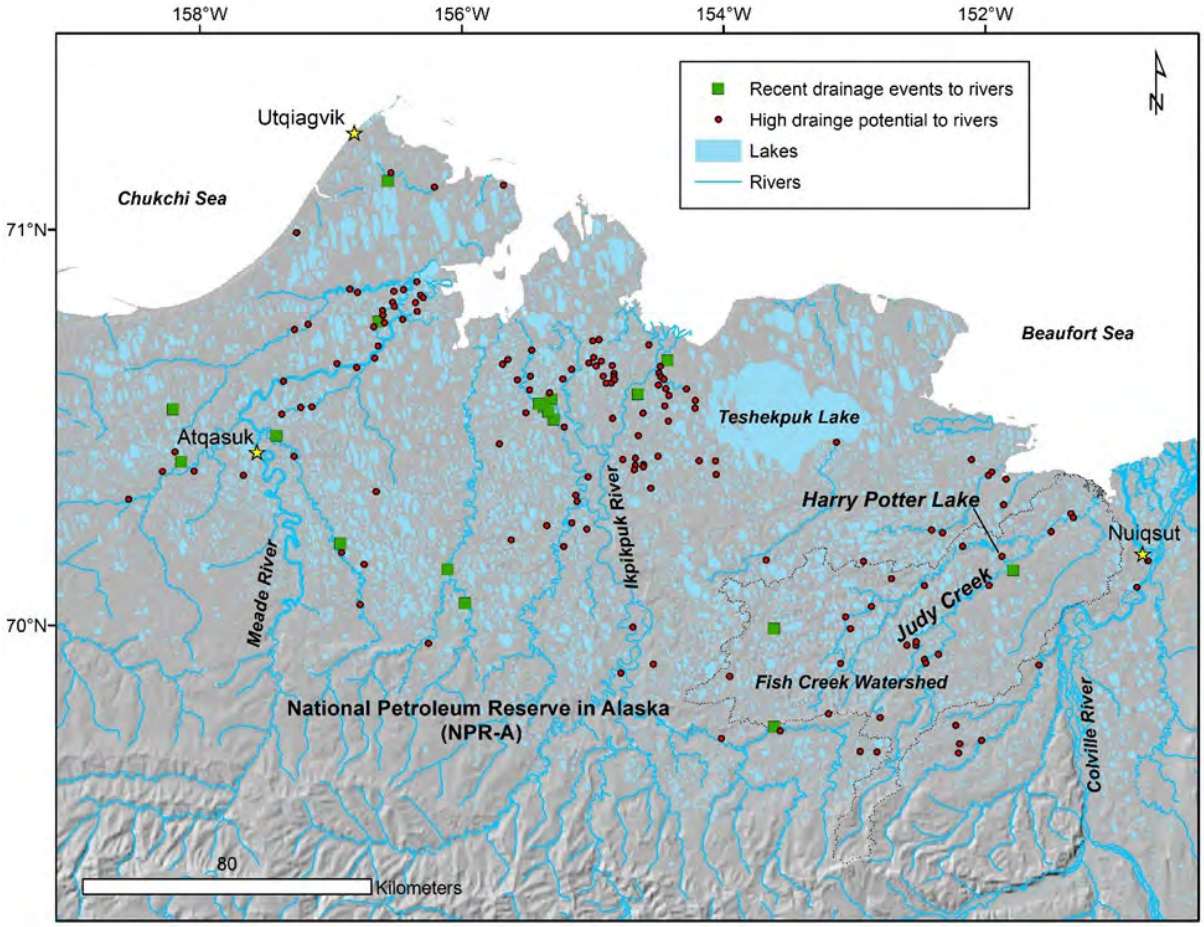
BLM Hydrological Monitoring

Beginning in the early 2000s, BLM established a network of aquatic monitoring sites that have continued to expand in conjunction with proposed oil and gas (O&G) development. This monitoring effort not only helps ensure the BLM fulfills its responsibility to encourage environmentally responsible development of energy on public lands, but it provides an opportunity to evaluate the effectiveness of BLM Required Operating Procedures (ROPs). The workload associated with

maintaining this comprehensive network is possible due to a long-standing collaboration with the University of Alaska Fairbanks (UAF) Water and Environmental Research Center (WERC).

During routine hydrological site visits in 2022, the Arctic District Office fish biologist, in collaboration with UAF hydrologist Chris Arp, observed a large lake (i.e., Harry Potter Lake/Lake M0007) that had been monitored since 2018 was very close to draining into a nearby meandering stream within the proposed Willow development area. Surface water was noticeably flowing over a lakeshore-stream divide in early June with active headwater erosion of ice-rich permafrost soils apparent by late June. Nearby communities, permittees, and operators in the area were notified of the imminent lake drainage event at this time. In early July 2022 this point breached, draining almost the entire lake within 12 hours. Harry Potter Lake drained directly into Judy (Kayyaaq) Creek, generating a flood peak that corresponded to a 12-foot rise in water levels. Ultimately, there were no reports of any downstream damage to infrastructure.

This rapid lake drainage event provided an opportunity to develop a spatial tool to estimate potential flood magnitude of other lakes with high drainage potential across the Arctic Coastal Plain (ACP). Many lakes drain directly into other lakes, drained-lake basins, the ocean, or upland tundra. In these instances, potential human impacts associated with these events are likely to be minimal. However, when lakes drain directly to streams or rivers, this may result in large flood events that could pose risks to human infrastructure. Of the nine lakes with high potential for generating large outburst floods (similar or greater than what was documented at Harry Potter Lake), three are located within the Meade River drainage network, four within the combined Ikpikpuk and Chipp river drainage networks, and one lake would drain to a headwater tributary of the Kikiakrorak River. The final lake would flood directly to the Chukchi Sea southwest of Utqiagvik, thereby posing a limited hazard. These maps can be used by agencies and industry to inform routing of any new permanent roads, rivers and stream crossings, and be used to identify lakes that may be poorly suited as year-round water sources that require permanent infrastructure (e.g., pump houses, gravel pads) for access.

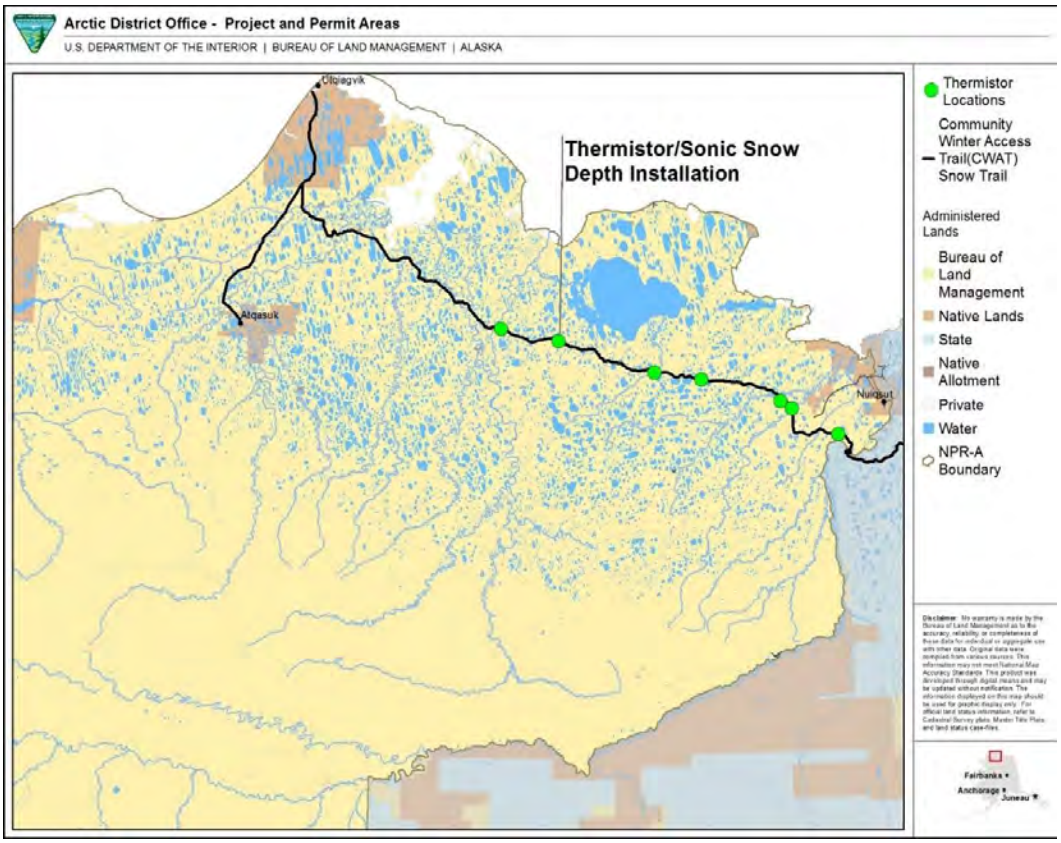


Map with locations of recently drainage lakes and lakes with high drainage potential.

BLM Soil Temperature and Sonic Snow Depth Sensor Installation and Monitoring

In late September 2019 the BLM Arctic District Office installed soil temperature sensors and sonic snow depth sensors at eight locations along the North Slope Borough's Community Winter Access Trail (CWAT) corridor to better assist in the monitoring of soil temperatures and snow depths. Thermistors were installed within approximately 30-150 meters (m) of the expected winter 2019-2020 CWAT location, as site conditions allowed. During August of 2022 BLM RDO installed an additional 4 soil temperature sensor cables and sonic snow depth sensors along the "newly permitted" segments of the CWAT ROW running from Barrow down to Atqasuk and over to Wainwright. Including the 4 stations installed in 2022, BLM now has a total of 14 soil and snow stations installed within the NPR-A. 1 or 2 additional installations are planned for summer of 2023 to further improve the coverage of the monitoring effort.

The crew drilled in frozen soil with a flighted auger and collected all frozen soil shavings excavated from the holes. Crew members installed digital temperature sensing cable down the holes and connected them to a transmitting data logging unit, Sonic Depth Sounders (SDS), and mounting hardware above grade with markers to make the sites more visible. The mounting poles are 1.5-3.0 m above surface elevation. The crew used the mineral soil shavings collected from excavation to slurry, backfill, and refreeze the sensors and dug a shallow narrow trench from the thermistor installation site to the data logger. Trenched cables were encased in a polymer conduit for added protection from wildlife. Crew members surveyed each site with GPS, marking a snow course for ground truthing snow-depth measurements during subsequent winter field studies. Three markers at each site (spaced in an L-shaped pattern) consist of s-takes with a mounting bracket sunken 15 to 30 cm deep and connected to a flexible, reflective breakaway pole designed to be resilient if hit or run over by snow machine drivers or equipment operators.



BLM Arctic staff expects to continue monitoring efforts indefinitely. Arctic Office staff anticipate that equipment and loggers will function with little to no maintenance required for extended periods, but summer monitoring procedures allow for annual site visits to upload additional logger points and repair non-functioning equipment as needed. Site visits (at least one per year) would involve one helicopter landing and take-off with no additional ground disturbance. BLM provides a publicly available Weekly Tundra Travel Report on its website at: https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/about/alaska/NPR-A/NPR-A-weekly-weather-and-tundra-travel-report

This weekly report provides recent data collected on soil temperature and snow depth to advise industry, permit applicants, and the public on tundra access and timing.

Winter monitoring efforts will focus on snow depth data collection at up to eight sites, with one to three visits annually to each site by helicopter or snow-machine as conditions allow. Winter monitoring will consist of taking 50 snow depth measurements and five density measurements per site. Surface disturbance will be limited to the walking trail and a few small, freshly cut faces in the snow profile to collect density measurements. Each snow survey effort would have a total of eight landings and take-offs for a maximum of 24 landings and take-offs.

If it is determined that monitoring should cease, then the above-ground portion of the installation (conduits, buried cables, and snow course markers) can be removed with minimal disturbance to surface vegetation and negligible soil thermal regime effects.

During December of 2021 BLM conducted snow road prepacking monitoring and snow sampling along the CWAT trail. Snow density and hardness were characterized at points along the route both before and after the prepacking and post-packing freeze-up. This field work allows BLM to better understand industry methodologies as well as evaluate the effectiveness of Required Operating Procedures (ROPs) and Stipulations for permitted activities in the NPR-A.

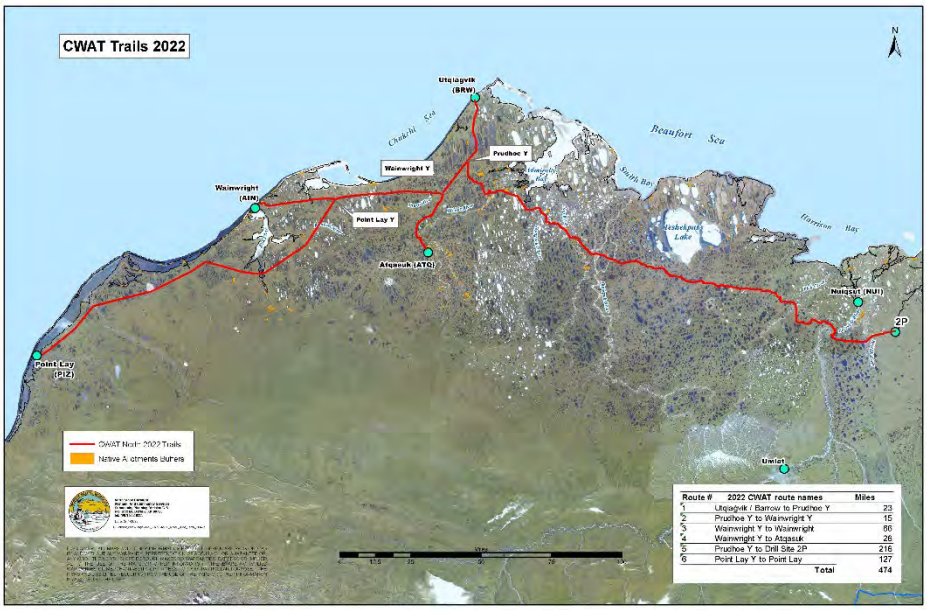
North Slope Borough Community Winter Access Trails Right-of-Way

The BLM Arctic District Office permitted the North Slope Borough (NSB) Community Winter Access Trails (CWAT) in fall 2017 with a 5-year Right-of-Way. The CWAT involves annual winter construction of improved snow trails for use by residents along historically established Rolligon trails between Utqiagvik, Atqasuk, Wainwright, Point Lay, and Drill Site 2P (on the east side of the Colville River). This project focuses on maintaining existing trails and managing public safety. The five-year permit authorizes the CWAT from winter 2017-18 through winter 2022-23.

In winter 2019 the Arctic District amended the Right-of-Way (ROW) for the CWAT to include a route between Wainwright and Atqasuk. The ROW was also amended to authorize the installation of two safety shacks along the CWAT route, which would provide heat, shelter, and basic facilities for CWAT travelers.

In winter 2021, the Arctic District Office amended the current ROW to add two new snow trails including a new route from Wainwright to the Village of Point Lay and a route to Wainwright that would use a more traditional trail from Utqiagvik. The request would also add three safety shelters on these snow trails.

The construction of the CWAT began in January 2023. The NSB will construct and maintain the trails between Utqiagvik, Atqasuk, Wainwright, and Point Lay.



Winter 2022-2023 Location of CWAT

This project is expected to demonstrate the NSB's capability to provide winter overland access to its communities located adjacent to or within the National Petroleum Reserve in Alaska (NPRA). The NSB coordinates the establishment and development of the winter access trails. Eskimos, Inc. serves as the NSB's prime contractor for the winter trails and is responsible for the subcontractors conducting work on the trails.

Commercial operators wishing to use the CWAT are permitted separately by the BLM.

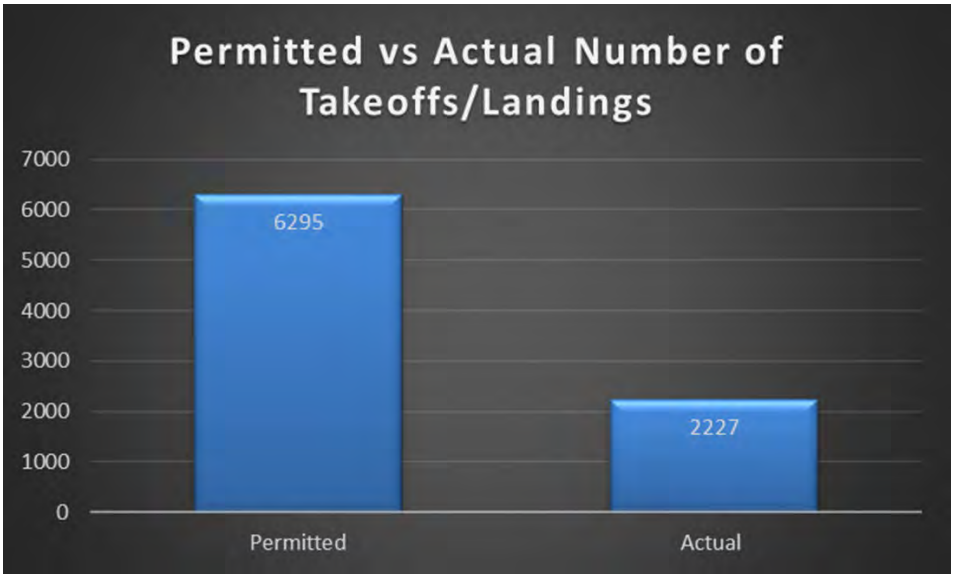
Please visit the CWAT ePlanning website for complete information.

BLM Studies and Research Programmatic Environmental Assessment

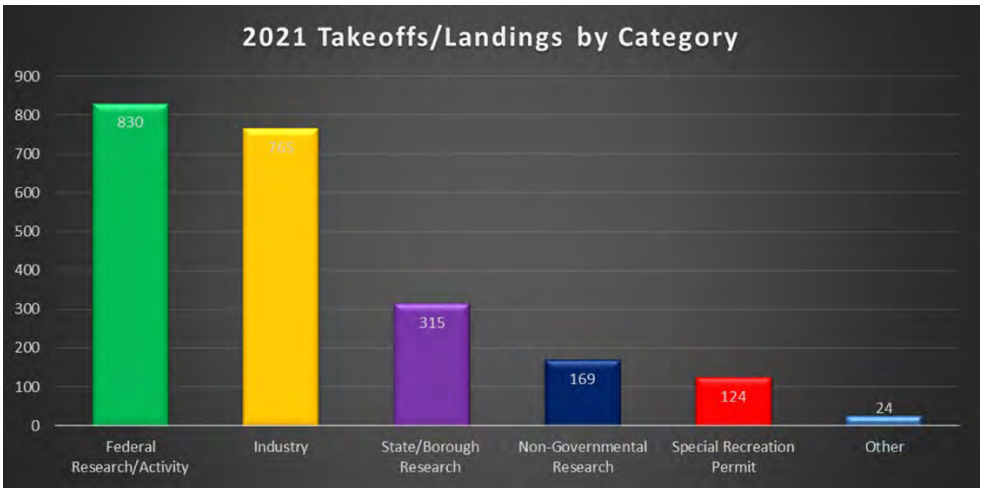
The BLM is in the early stages of developing an Environmental Assessment (EA) that will describe and analyze the impacts of numerous studies, research, monitoring and inspections conducted annually in the National Petroleum Reserve in Alaska. The EA will include caribou monitoring and collaring and surveys for grizzly bear, numerous different bird species, soils, vegetation, cultural resources, paleontological resources, wolverine, fish, and hydrologic surveys. The EA will also consider annual BLM inspections and monitoring including those for legacy wells, oil and gas activities, permit inspections, and special recreation permits. Aircraft use will be the major issue associated with these activities.

For aviation, we have already begun to analyze previous data in order to be able to compare it over the course of several years. The initial analysis involved data from summer 2021 and compared the number of takeoffs and landings across different categories, the number of permitted flights vs. the actual number of flights during the aviation season, and spatial data. Information presented to the

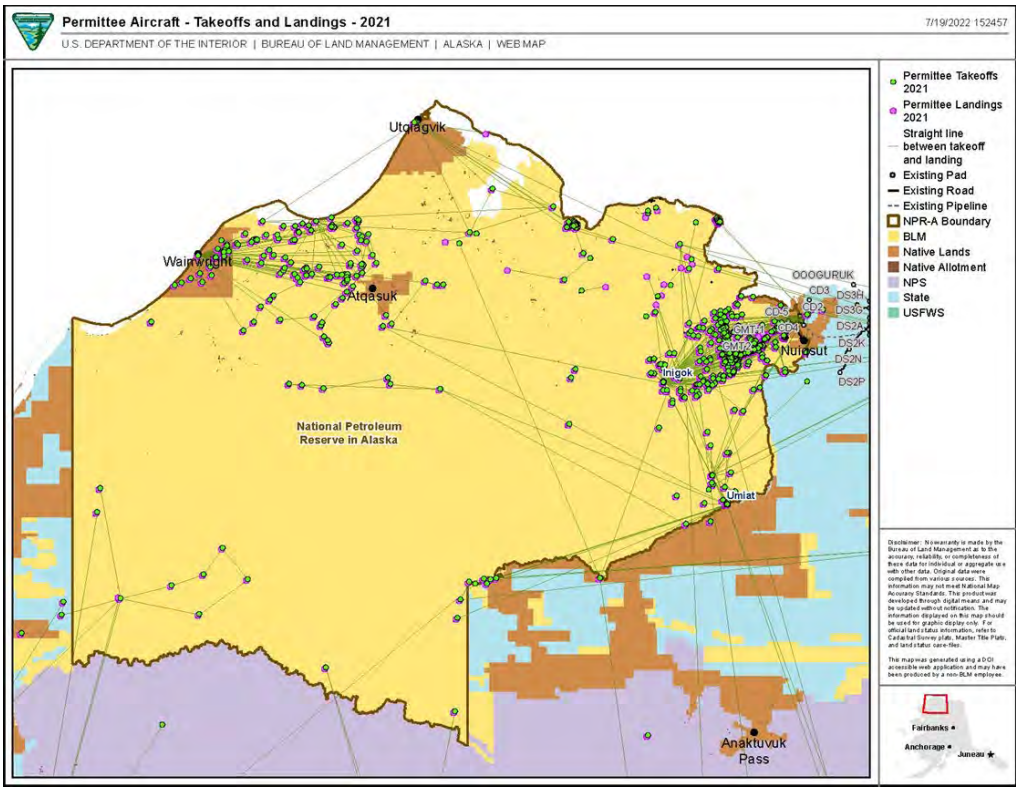
NPR-A Working Group is shown below. We plan to include analysis of past years in order to have a better understanding of potential trends over time and to potentially find mitigation measures for aircraft use that has the potential to disturb subsistence users on the landscape. Additionally, the new requirement for permittees to provide the BLM with the tracks of their flights will allow for a better understanding of the use of airspace in the NPR-A going forward.



2021 Permitted vs. Actual Takeoffs/Landings

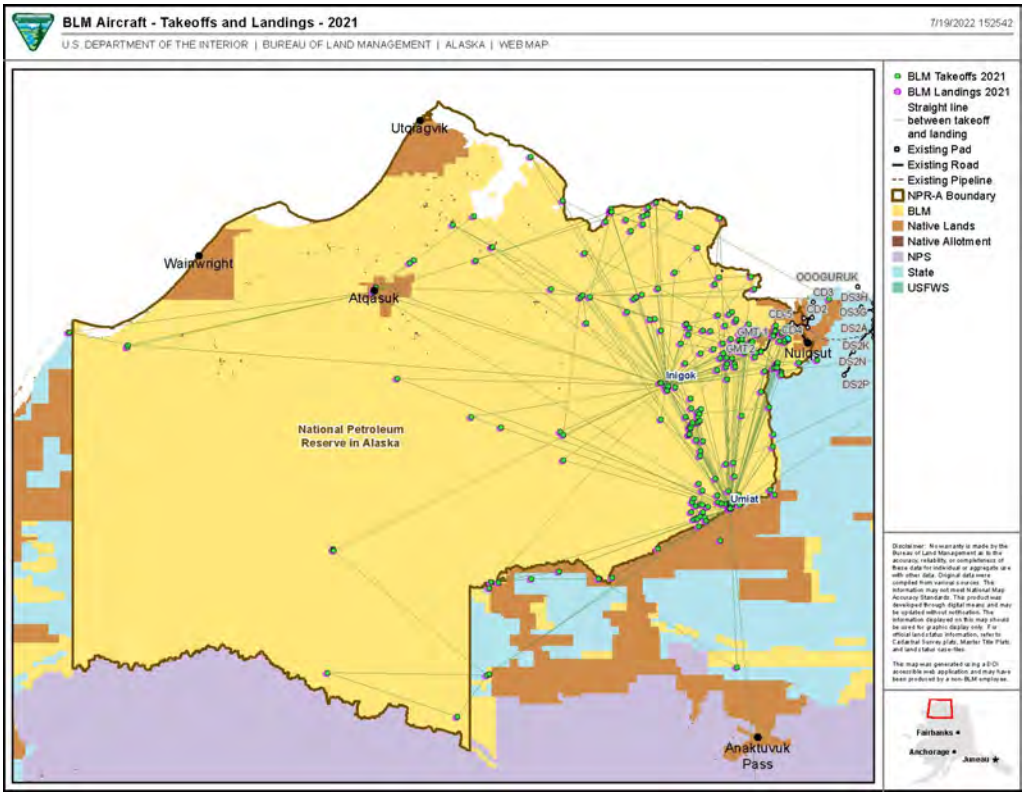


2021 Aviation by User Category



2021 Permittee Spatial Flight Data

A map depicting flight routes by permittees in the NPR-A in 2021.



2021 BLM Spatial Flight Data

Work on the BLM Programmatic Environmental Assessment is ongoing, with a tentative date of completion in April 2023.

ADF&G Nuiqsut Subsistence Fisheries Study

It is policy in Title VIII of the Alaska National Interest Lands Conservation Act that "the utilization of the public lands in Alaska is to cause the least adverse impact possible on rural residents who depend upon subsistence uses of the resources of such lands". BLM further emphasizes its resource protection mission for subsistence in Environmental Impact Statements for the NPR-A (NPR-A IAP/EIS, GMT1 EIS, GMT2 EIS, and Willow MDP EIS). Sustainable fisheries management in Alaska requires a solid understanding of harvest estimates as well as the social context in which harvest occurs. Baseline subsistence harvest information, collected systematically over time, is needed both for established state and federal management processes and for planning and impact assessment efforts. This information can only be acquired by working directly with village members to help determine whether characteristics of the fishery (catch composition, effort, areas utilized, etc.) are changing over time and if local fish resources that provide for this harvest are being affected by land-use or shifting environmental conditions.

The village of Nuiqsut in the northeast NPR-A is largely surrounded by oil and gas exploration and development, including several activities on BLM-managed lands in the region. The primary subsistence fishery in Nuiqsut is the fall under-ice harvest of Arctic cisco, which is very well tracked and has been monitored for about the last 30 years through funding from ConocoPhillips Alaska. However, there is much more sparse and scattered information on the harvest extent and areas of use and timing for other fish species. For example, fisheries getting less attention include burbot in the spring and broad whitefish during the summer and fall. The last known work in Nuiqsut regarding non-Arctic cisco fish harvest was 2006, and that was a very limited effort. Due to this developing data gap, the BLM solidified a financial assistance agreement in FY2020 with the Alaska Department of Fish and Game Division (ADF&G) Division of Subsistence in order for specialists experienced in this field to conduct the work.

In this project, ADF&G subsistence researchers will document harvests of Arctic fishes in order to produce community estimates of annual harvest and document local knowledge about patterns of use, abundance and health of fish stocks, and social factors that have affected fishing practices over time. Additionally, they will collect data to conduct a social network analysis of the sharing and distribution of fish resources within Nuiqsut and between Nuiqsut households and other communities. Social network analysis investigates the roles and patterns of cooperation and exchange within a community and helps to document the social organization of wild food production as a defining feature of subsistence economies. As such, it clarifies the effect of a change in resource availability or accessibility on the entire community rather than just harvesting households. These details are important as impact assessment efforts, particularly in the development of project alternatives and mitigative measures, need

to consider the ecological and social importance of subsistence fisheries. This project will span three years (2021 – 2023).

Survey administration and key respondent interview fieldwork occurred for the first year of data collection on April 18-23, 2022. ADF&G staff surveyed 63 of 103 eligible households in the community (61% sample) and interviewed 6 fishers. Researchers conducted additional fieldwork in July 2022 for participant observation of the summer broad whitefish fishery. Unfortunately, river conditions were such that Nuiqsut fishers were not setting nets (high water levels had brought debris downstream), but ADF&G staff were able to participate in rod-and-reel fishing for grayling with several local fishers along key stretches of the Colville River and were able to conduct an additional key respondent interview. Additional participant observation occurred in the community in November 2022 for the under ice fishery.

Grayling Fishing on the Colville River, July 2022 (Photo credit Helen Cold)

Data from the initial round of household harvest surveys and key respondent interviews are currently being analyzed. Upcoming fieldwork for this project includes travel to Nuiqsut a second round of household harvest survey data collection in January 2023 pending community approval.

ADF&G Wainwright Comprehensive Subsistence Harvest Survey

The NPR-A consists of 23 million acres of BLM-managed lands in the Arctic and is home to four primarily Iñupiaq communities who rely upon wild foods to sustain their communities and subsistence way of life. Documentation of subsistence practices within resident communities is important in order to inform many land-use evaluations, best management practices, and permitting decisions. Additionally, comparison of subsistence harvest and use information over time can help to track changes to community harvests caused by a changing climate, changes in resource availability, and development activities.

The ADF&G Division of Subsistence is planning to conduct a comprehensive subsistence harvest survey in the community of Wainwright. This study will document subsistence harvest and use practices in the community of Wainwright for all wild resources in a 12-month period with a focus on total harvest quantities, harvest composition, and household participation in subsistence activities, and spatial land use data. Additionally, the collection of ethnographic information to contextualize quantitative harvest information would be helpful for a comparison with past datasets. The BLM is seeking to collaborate with ADF&G on this project in order to allow for a documentation of the complete subsistence harvest of all wild resources in Wainwright for one calendar year. Updated subsistence harvest and use information will make land-use planning and permitting more accurate and will inform these decisions. It will also fill an identified data gap and could help to guide future subsistence documentation work in the NPR-A.

The Division of Subsistence has reached out to Native Village of Wainwright in order to seek formal approval for the research, which was received. Fieldwork is tentatively planned for early 2024.

Monitoring Polycyclic Aromatic Hydrocarbons (PAHs) in Sediments of the Colville River and Subsistence Fishes Important to the Community of Nuiqsut

The village of Nuiqsut in the northeast National Petroleum Reserve in Alaska (NPR-A) is largely surrounded by oil and gas (O&G) exploration and development, including a number of activities on BLM-managed lands in the region. Community members of Nuiqsut have expressed concerns regarding Polycyclic Aromatic Hydrocarbons (PAHs), a group of organic contaminants ubiquitous in the environment. Within the NPR-A, a previous study to assess baseline concentrations of PAHs was conducted over the course of seven years, with distinct collection events in 2004, 2005, 2008, and 2010. The results of this study indicated concentrations of PAHs fish were low, often below detection limits. However, these sampling efforts primarily occurred prior to the development of permanent O&G facilities within the NPR-A, as construction of the first permanent O&G drill site began in 2013, with first oil produced in 2015. Two additional gravel drill sites were subsequently permitted and began producing oil in 2018 and 2021, respectively.

In addition, some community members feel that PAH contamination may be associated with whitefishes infected with *Saprolegnia*, a water mold that can result in a fish disease called Saprolegniosis. This water mold was first found on broad whitefish (Aanaakliq) by Nuiqsut fishermen during the fall of 2013. The occurrence of this mold has since been observed on

additional whitefish species, including humpback whitefish (Pikuktuuq), Arctic cisco (Qaaktaq), and least cisco (Iqalusaaq). While Saprolegniosis tends to be associated with fish that have physical wounds on their skin or are under stress, some causes of wounding and stress can be pollution, crowding, changes in environment (water temperature, salinity, water flow), and production (especially spawning males).

With the increase in O&G activity near areas that serve as important aquatic habitats, a follow-up monitoring effort to evaluate PAH levels in fish tissues and sediments is being conducted to ensure that the Village of Nuiqsut, the North Slope Borough, and BLM are effective at protecting these sensitive aquatic ecosystems and comply with BLM's Required Operating Procedures (ROPs). The overarching goal of this project is to conduct a monitoring effort to evaluate potential changes in PAH concentrations in sediments and fish tissues within areas of the NPR-A and to assess whether elevated PAH levels are associated with fish infected with *Saprolegnia*. The BLM Arctic District Office, in collaboration with the North Slope Borough (NSB) Department of Wildlife Management (DWM), secured an agreement with contaminants specialists at the Mote Marine Laboratory to conduct analyses of PAH levels in fish tissues and sediments of the Colville River delta. As part of the agreement, a written report summarizing the study results would be provided as well as a presentation of the results to community members of Nuiqsut.

This multi-year project began in October of 2022, during which one broad whitefish (Aanaakliq) infected with mold and 11 healthy least cisco (Iqalusaaq) were collected during the under-ice fishery and sent to the Mote Marine Laboratory for analyses. Additional fish sampling events are planned for summer and fall of 2023. Nuiqsut community members interested in assisting with sampling or have any questions about the project can contact BLM Fish Biologist Katie Drew at (907) 474-2315 or ksdrew@blm.gov.

Caribou in the NPR-A

The North Slope is home to four barren ground caribou herds, three of which use habitat within the NPR-A. The Western Arctic herd (WAH), which numbers an estimated 188,000 animals as of 2021, primarily utilizes lands in the northwest corner of Alaska, from the Seward Peninsula across the western and central Brooks Range to Utqiagvik. The Teshekpuk caribou herd (TCH), numbering 56,000 animals as of 2017, has its range in the central Arctic Coastal Plain, with most animals in the herd remaining in this area year-round. The Central Arctic herd (CAH), numbering 28,000 animals in 2017, is found centered around the Sagavanirktok River between the Colville River in the west and Canning River in the east. The Porcupine caribou herd (PCH), which numbers 218,000 animals as of 2017, has a range that includes the northeastern corner of Alaska east of the Canning River and stretches into Canada's Yukon Territory.

In 2018, BLM entered into a cooperative agreement with USGS to study the effects of road traffic volume and timing within the Kuparuk oilfield on CAH caribou movements. Findings indicate that during summer seasons caribou select for areas further from roads as well as for areas with lower traffic volume and were less likely to cross roads as traffic volume increased. However, as with previous research, this study also indicates that as mosquito harassment increases, caribou will avoid roads less.

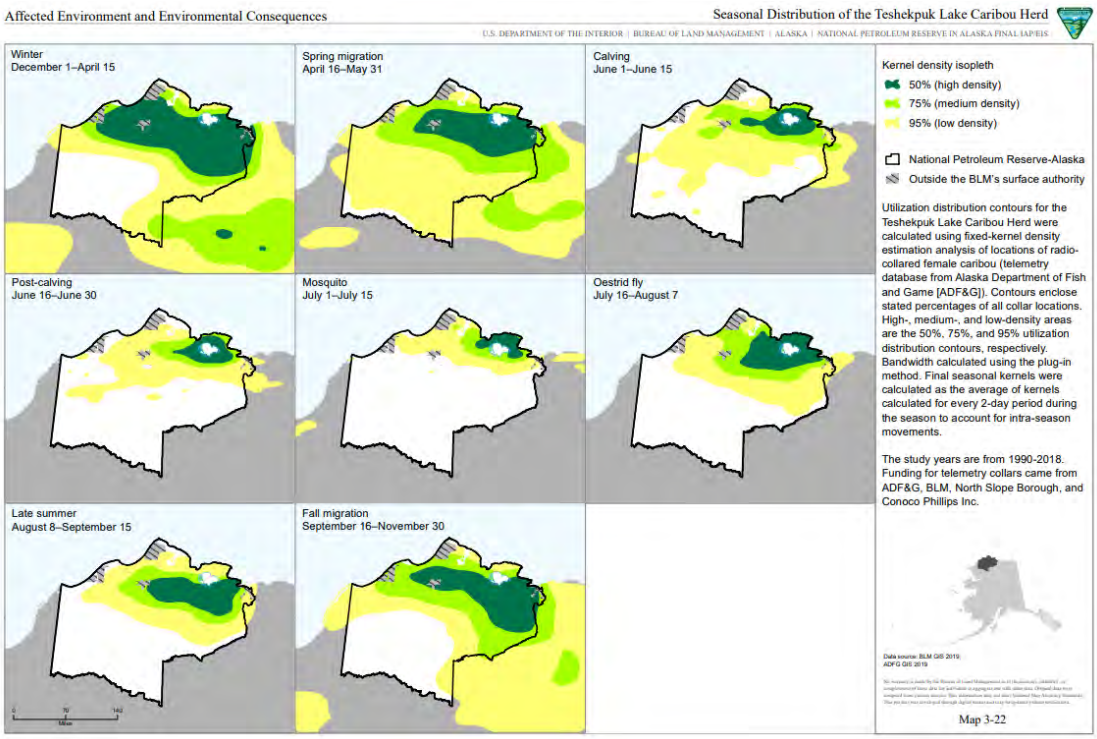
These findings have management implications and will help to inform mitigation strategies for future potential development in the region. Researchers are finalizing a manuscript for publication within the next year.

New population updates are available for two of the herds that utilize the NPR-A. The most recent photocensus for the Western Arctic Herd counted 164,000 animals, a decline of 24,000 from the 2021 count. One of the factors that seem to be driving the decline is low adult cow survival and the herd appears to be in a state of decline. The Western Arctic Caribou Herd Working Group voted in favor of submitting a proposal to both the state Board of Game and the Federal Subsistence Board to limit annual harvest to 4 animals per hunter, only one of which could be a cow. In contrast, the Teshekpuk Herd photocensus counted 61,500 animals, an increase from 55,000 in 2017. The population is thought to be stable.

Caribou Habitat in the Vicinity of Oil and Gas Development

The Fish Creek watershed is widely acknowledged as an area important for both subsistence use and caribou habitat. This area is also the focus of potential near term oil and gas development, and as such is of great interest to the public as well. Prior to development, it would be helpful to conduct a baseline assessment of the vegetation in the area. This assessment would assist in monitoring potential impacts and mitigation effectiveness.

The habitat in this area is used by some caribou throughout the year, but especially during calving season and during both spring and fall migration (See annotated map 3-22 below. Approximated area for development is indicated by red marker). Calving habitat consists of early emergent high nutrient forage important for calf growth and development. Caribou select for these particular forage types during the calving period and tend to return to the same general areas at calving time each year. Late summer forage quality can play an important role in winter survival for caribou, while migration route can affect timing of arrival on winter range.



It's unclear if the same forage types will be available in the same quantities if displacement occurs. This study will aim to address this uncertainty by looking at vegetation species composition at sites known to be utilized by caribou. Habitat assessment will include both species richness and abundance, and will also determine presence/absence of sensitive plants and invasive or non-native species. Sites will be identified using both telemetry locations (past and present) and hunter utilization data. Two weeks of field work would occur in late July to early August of 2023. One hundred meter transects would be run at identified sites, using a random sampling method. Focus will be on the calving period (telemetry) and fall migration (telemetry and hunter data). Supplemental data on forage composition could also be acquired through fecal pellet analysis, which could be sampled opportunistically during vegetation surveys. The data could then later be compared to locations of caribou usage during the same time periods after development pending future research.

In order to aid in targeting the location for habitat assessment, documenting traditional ecological knowledge (TEK) of caribou in known subsistence use areas of Fish and Judy Creek will occur in the winter and spring prior to fieldwork in the community of Nuiqsut. Researchers will conduct key respondent interviews with active subsistence users in order to collect information regarding observed caribou utilization of the Fish Creek watershed over the course of the respondent's time hunting in the region; these interviews will include question regarding any observed changes in caribou abundance and distribution within the area and any associated changes in search and harvest areas. During these interviews, mapping of recent and historical search and harvest areas within the watershed will aid in identifying sites to sample for vegetation composition. Key respondents will be chosen in collaboration with local governments in the community and snowball sampling in which knowledgeable subsistence users identify other potential interview subjects. BLM staff are currently

reaching out to the Native Village of Nuiqsut to discuss the project prior to interview data collection. Fieldwork to collect TEK information will occur in the Winter/Spring of 2023 dependent upon community approval.

At the end of the project, the results of data collection will be brought back to the community as a form of educational outreach.

Evaluating the Effects of Changing Sea Ice Conditions on Spectacled Eider Distribution

Spectacled eiders are listed as Threatened under the Endangered Species Act (ESA) and as such BLM has a responsibility to monitor the status of the population in the NPR-A and to work towards understanding the factors that may keep the population from recovering to the point where the species could be removed from the ESA list of Threatened species.

The primary objective of this project is to describe the late winter distribution of spectacled eiders from the 2 breeding populations in the United States under low sea ice conditions in the Bering Sea. This was done by capturing eiders in the spring of 2022 and implanting them with satellite transmitters and will be tracked remotely for the next 2 – 3 years.

The collection of additional location data of spectacled eiders in winter to delineate habitat use will significantly improve the USFWS ability to make defensible reclassification decisions about spectacled eiders. Without data on adaptive capacity and plausible future scenarios, there is a risk of making reclassification decisions that over- or under-protect the species. In addition, understanding the distribution of spectacled eiders aids in determining and minimizing potential effects of increased shipping in the Bering Sea associated with resource development in the Section 7 consultation process. Expansion of petroleum exploration and development into currently undeveloped areas of the Arctic will require the BLM to make decisions regarding permitted activities. Critical management decisions will revolve around the status of ESA listed spectacled eider that nest in the NPR-A. Knowing the status of the population and the probability for declines in the worldwide population is critical for the management of the NPR-A.

If birds were to remain in the core wintering area after sea ice recedes, they could be subject to energetic losses due to wind, wave action, and inability to roost on sea ice platforms, which in turn may affect survival and reproductive rates. However, preliminary results from spectacled eiders marked in 2018 show that some spectacled eiders move to areas outside of the core wintering area when sea ice recedes north. This suggests that spectacled eiders have the behavioral flexibility to disperse when environmental conditions change. An understanding of the degree of behavioral flexibility would improve reclassification decisions for the species under the ESA. For such decisions, we need to evaluate the adaptive capacity of a species to change in response to a changing environment, and how that contributes to the species' current and future viability (e.g., an evaluation of the species' current and future representation in species status assessments).

Male Spectacled Eider with transmitter wire showing

Experimental Assessment of Helicopter-Induced Disturbance on Molting Black Brant in the Nation Petroleum Reserve-Alaska

The Teshekpuk Lake Special Area (TLSA) within the NPR-A, supports tens of thousands of molting and breeding waterfowl, including four species of geese. The special area designation was assigned primarily for its value to fish and wildlife resources, and in part, for its importance as the primary molting grounds for the world's population of Pacific black brant (hereafter: brant). Failed nesting and non-breeding brant from throughout the species breeding range, including nesting areas in Alaska, Canada, and Russia, undergo a migration in June and July to wetlands within the TLSA to complete molt and re-grow their flight feathers, during which time they are rendered flightless for 3-4 weeks. The TLSA and adjacent coastal habitats represent the primary molting grounds for the species, supporting as many as 36,000 molting brant (approximately 30% of the total Pacific population) annually. Given the traditional and continued use by such a large component of the population, this area appears to be unique in providing the essential combination of resources required for brant to complete the flightless period.

Waterfowl are particularly sensitive to disturbance during the wing molt, a behavior attributed primarily to the reduced ability of flightless birds to avoid predators. As compared to other sources of disturbance, helicopters illicit a particularly strong response from molting geese, whereby disturbed birds run to the nearest shoreline, congregate in dense flocks, and swim in the safety of open-water until the perceived threat has dissipated, or in more extreme cases, they may be displaced over-land to an alternative wetland. Thus, repeated helicopter disturbance to molting brant may alter their patterns of habitat use and spatial distribution, reduce foraging efficiency and increase nutritional stress, or impact survival directly through increased exposure to terrestrial predators.

This project would conduct an experimental study to quantify potential population-level impacts of helicopter disturbance on brant molting in and adjacent to the TLSA. Specifically, this study will use experimental helicopter overflights to quantify the effects of helicopter disturbance on the behavior, habitat use, and survival of molting and post-molt brant. Further, this study will evaluate the ability for molting geese to habituate to repeated helicopter disturbances and quantify across-year effects of disturbance on habitat selection and spatial distribution. The major components of the work are:

1. Conduct a pilot study to assess the effect of transmitter attachment methods on molting site fidelity and behavior of brant. A molting drive will be conducted to capture flightless brant on a single lake during early July in the TLSA.
2. Conduct experimental helicopter disturbance of brant within the TLSA using lakes with similar habitat and good abundance. Helicopter disturbance treatments will be conducted regularly for the preselected lakes, allowing for direct comparison of goose behavior among treatment scenarios.
3. Measure the response to helicopter disturbance on molting brant within the TLSA using two primary approaches to quantifying potential effects of helicopter disturbance on molting geese, one using GPS transmitters for assessing within-year effects on home range size and movement rates, the other using a mark-recapture framework for assessing across-year effects on molting site fidelity and survival.

Expansion of petroleum exploration and development into currently undeveloped areas of the NPR-A will require the BLM to make decisions regarding permitted activities. Recent debates have centered around allowing roads. These decisions will need to be based on the trade-off between the overall effect of the road compared to the overall effect of required logistics in the absence of a road. In the absence of a road, substantial helicopter support is required, thus increasing the exposure of local wildlife to the number of helicopter overflights, landings, and takeoffs. It is clear that helicopter activity directly alters the behavior of molting geese, even at considerable distances, but the extent to which helicopter-induced disturbance may cause population-level effects is little studied and largely unknown, highlighting a key gap in knowledge for land managers tasked with minimizing impacts of oil and gas leasing on wildlife.

Group of brant in capture pen

Brant with transmitter attached with a harness

Cruz Construction

Cruz Construction, Inc. (Cruz Construction) has received a renewal their Right-of-Way (ROW) to deliver crushed aggregate gravel, structural fill, and equipment over a constructed snow road from Utqiagvik to Atqasuk during the 2023 winter and spring seasons and to return equipment over the

snow road during the winter 2024. The snow road will be located on both native lands and on federal lands managed by the Bureau of Land Management (BLM) in the National Petroleum Reserve in Alaska (NPR-A) (Figure 1).

Cruz Construction was issued a one-year ROW in December 2020 for construction of a snow road to transport fill and equipment to Atqasuk to support the Atqasuk airport rehabilitation project during the winter of 2021. Although the project was started in the winter 2021, it was not completed, and Cruz Construction is requested to renew their ROW for two years (2023-2024) to complete the Atqasuk airport rehabilitation project.

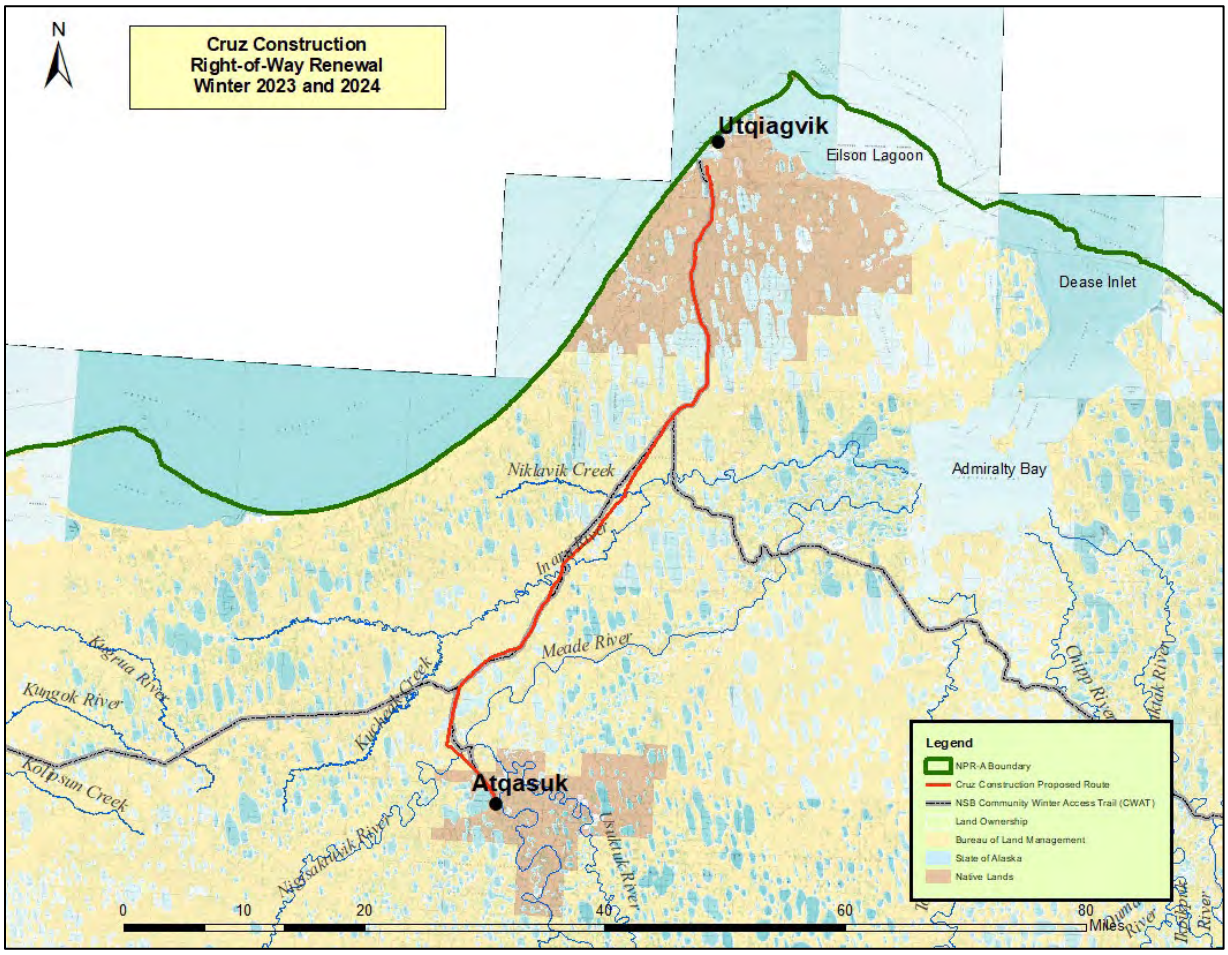


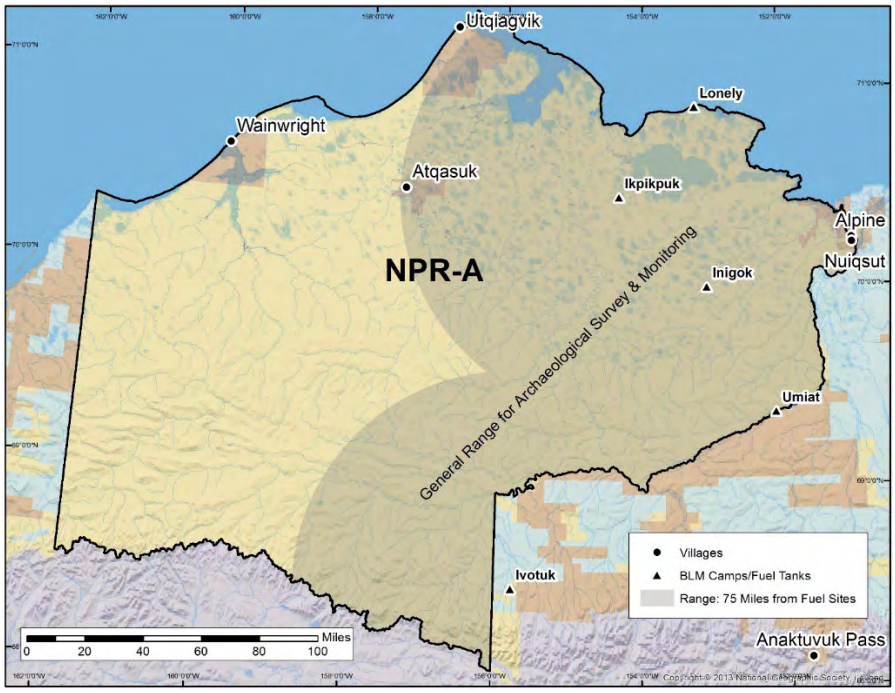
Figure 1. Location of proposed snow road from Utqiagvik to Atqasuk

Construction of the snow road will begin in January of each year, depending on weather and environmental conditions. To armor the snow road for heavy loads and traffic, water will be applied to the trail. Water will be withdrawn from two lakes on BLM managed lands and two lakes on native lands.

The snow road would be expected to be used from January thru March in 2023 and from January thru February in 2024 but could be longer depending on weather or environmental conditions.

Archeological Survey in the Eastern NPR-A

BLM archaeologist Joe Keeney has been conducting ongoing proactive archaeological survey work in the eastern NPR-A over the last several years. The goal of these helicopter-based survey is to 1) identify and record previously undocumented archaeological or paleontological sites in the area, and 2) revisit known sites in the area to monitor their condition and update locational information using high-precision GPS. The archaeology crew visually searches for landforms and settings where identification of cultural materials would be likely and/or possible and would land at those locations to inspect the areas on foot or (in some cases) by low-level overflights (note: the crew avoids low level overflights when animals—namely caribou—were present). In addition, the archaeology crews visit sites outside the main survey area to record and map those sites and/or monitor their conditions, especially those along the Beaufort Sea coast that are actively eroding at a high rate.



As most of the overall land area used for permits authorized by the BLM Arctic district Office relates to overland transportation, the archaeology crew focuses on surface sites, which are most susceptible to overland transportation. As buried sites are protected by the overlying sediments and vegetation and less likely to be disturbed by overland transportation, the archaeology crew limits the amount of subsurface testing (i.e., small-scale digging to identify the presence of buried materials) during these projects.

Keeney, aided by one or two BLM seasonal archaeologists , conducted the most recent surveys in the summer of 2022 over two weeks between July 21-26 and August 20-23. The crew

focused most of the survey efforts within 60 miles of Inigok and Umiat. The 2022 archaeology crew aerially surveyed approximately 54,330 acres in search of suitable areas for more intensive survey on-foot. The 2021 crew surveyed 215 acres on foot, which resulted in seven newly documented sites and monitoring and updated mapping at 13 sites. Keeney plans to conduct another one to two weeks of similar survey in the eastern NPR-A in 2023.

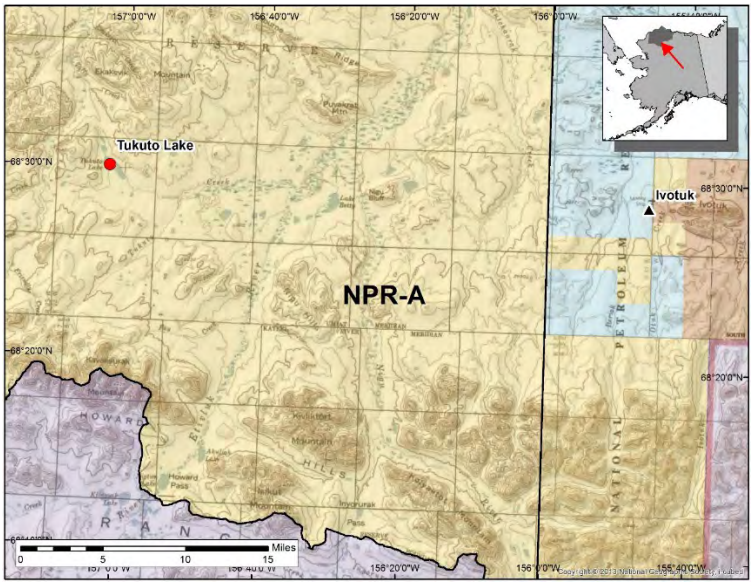
Tukuto Lake Mapping in South-Central NPR-A

BLM archaeologist Joe Keeney, Drs. Josh Reuther (Archaeological curator, University of Alaska Museum of the North) and François Lanoë (Assistant Research Professor, University of Arizona), and UAF graduate student Haley McCaig conducted a collaborative project aimed at understanding the design and strategies associated with caribou drive line systems. Located 32 miles west of Ivotuk in the southern NPR-A, the Tukuto Lake Archaeological District contains several known archaeological sites dating to approximately 600-1,500 years ago, including several habitation sites with houses, cache pits, and numerous caribou bones, along with several miles of lines of stone cairns used as part of a drive system to efficiently herd caribou into an area for hunting large numbers. Excavations at Tukuto Lake occurred in the 1970s and 1980s, focusing on sites immediately around the lake; however, until the work in 2022, there was virtually no documentation of the expansive driveline sites west of the lake (e.g., XHP-00288).

The 2022 work involved recording (photographing, notation, and detailed mapping with sub-meter GPS) the drivelines and other nearby features, and attempting to recover organic material (animal bone, wood, seeds, etc.) underneath the stones that could be used for radiocarbon dating when the drive systems were built. The 2022 crew limited excavation to two small (50x50cm) test pits at one of the driveline sites near Tukuto Lake, which were backfilled after completion. Crewmembers carefully lifted rocks along the driveline to locate materials suitable for dating and replaced all stones in their original positions (no larger stone features were disassembled). The 2022 crew successfully mapped three sites consisting of lines of cairns, hunting blinds, cache pits, and stone tool making debris near Tukuto Lake. The archaeological team limited artifact collection to only organic materials recovered beneath the rocks and materials recovered from the subsurface tests; all materials are now housed at the University of Alaska Museum of the North. While Keeney plans to continue mapping similar drivelines in the NPRA in 2023, additional visits to Tukuto Lake are unlikely in the near future.

The Tukuto Lake archaeology crew based out of a spike camp at Tukuto Lake, accessing the location via fixed wing to Ivotuk and helicopter between Ivotuk and Tukuto Lake. Helicopter use associated with this project was limited to accessing and departing Tukuto Lake, requiring three direct point-to-point flights each way. Fuel onsite was limited to propane cannisters for cooking and a 5-gal can of gasoline for a generator, all stored within the bear fence. The crew packed out all trash and human waste.

Keeney, Reuther, and Lanoë are seeking to collaborate on this project with holders of traditional and historic knowledge from North Slope Borough communities. People interested in helping with this project can contact BLM archaeologist Joe Keeney at 907-474-2312 or jkeeney@blm.gov.



Legacy Wells Program Update

Background

Between 1944 and 1982, the U.S. Navy and the U.S. Geological Survey drilled 136 wells on Alaska's North Slope to explore for oil and gas resources within what is now the National Petroleum Reserve in Alaska (NPR-A). In 1976, BLM was given responsibility for managing the NPR-A, and in 1982 BLM inherited the responsibility for the legacy wells. Many of the legacy wells were not properly plugged or abandoned, and surface debris or contaminated soil may have been left in place. The BLM prepared the NPR-A 2013 Legacy Wells Summary Report and the NPR-A 2020 Legacy Wells Strategic Plan to assess the condition of each well and prioritize remediation of the wells.

2023 Winter Season

The BLM has a contract to complete plugging and abandonment (P&A) activities at the Iko Bay legacy well. The contractor would mobilize to the well via a winter snow trail and complete P&A activities. Attempts to plug and abandon the Iko Bay legacy well in 2016 and 2017 were unsuccessful due to down-hole conditions. The Arctic District Office is currently working on an Environmental Assessment for 2023 P&A activities for the Iko Bay legacy well.

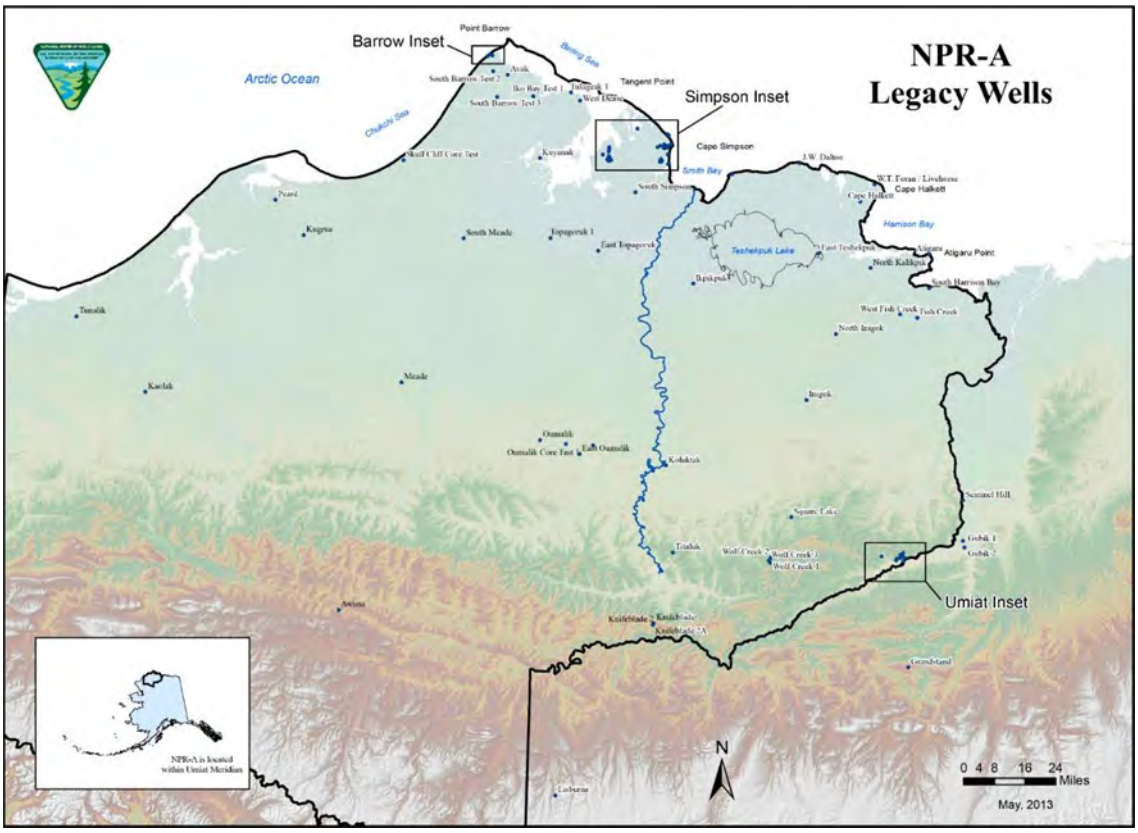
Legacy Wells Upcoming Work:

The BLM contractor completed plugging and abandonment of the Omualik Test Well 1, Oumalik Core 2, Oumalik Core 11, Oumalik Core 12, and East Oumalik legacy wells over the 2021/2022 winter season. Contaminated soil encountered during the P&A activities remains on site, and additional work is needed to remove it. The BLM is currently working on a removal action plan.

The BLM completed the NPR-A 2020 Legacy Wells Strategic Plan, and continues to work on updating the 2013 Legacy Wells Summary Report. The BLM has prepared a programmatic

Environmental Assessment for planned P&A activities at the following legacy wells over the next 10 years:

- Cape Halkett
- East Topagoruk
- Fish Creek
- Koalak
- Knifeblade 1
- Knifeblade 2
- Knifeblade 2A
- Meade
- Skull Cliff
- Topagoruk
- Tulageak



Location of Legacy Wells within the NPR-A

More Information:

More information on legacy wells can be found on the BLM Alaska website at:
https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/alaska-legacy-wells

Photos of the 2017/2018 winter plugging and abandonment activities are available on the BLM Alaska Flickr site:
https://www.flickr.com/photos/blmalaska/albums

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Allie Schoessler, Petroleum Engineering Technician: aschoessler@blm.gov or (907) 267-1244

NPR-A Working Group

This group provides the forum for North Slope communities to provide meaningful, regular input to on-going management decisions and proposed activities (e.g. oil and gas leasing) and developments (e.g. pipelines) in the National Petroleum Reserve in Alaska (NPR-A).

In response to comments and in consultation with local governments, Native corporations, and tribal entities, the group was established by the February 2013 NPR-A Integrated Activity Plan/Environmental Impact Statement (IAP/EIS).

The NPR-A Working Group consists of representatives from North Slope local governments, Native corporations, and tribal entities. BLM Alaska regularly attends meetings and oversees the contract for a facilitator, but BLM does not control or manage the group. Meetings were held from 2015 to July 2020. The group reformed in August 2021 after a hiatus and met until July 2022. The contract with the original facilitator lapsed and the BLM is finalizing an RFP to open up for bidding in January 2023 in order to restart regular meetings.

The group informs BLM about community concerns on a range of issues associated with activities within the NPR-A, including: oil and gas leasing, land use conflicts, exploration, and infrastructure projects supporting onshore and offshore oil and gas development, such as production facilities and pipelines.

The NPR-A Working Group also serves as a forum to collect additional scientific information and traditional knowledge about wildlife populations and needs. The group's input can inform potential adjustments to the boundaries of special areas. Similarly, if wildlife migration patterns are altered by future development in the NPR-A, the working group can provide important feedback about areas where additional protection of surface values should be considered.

North Slope Science Initiative

The overall goal of the North Slope Science Initiative is to ensure compliance with NSSl's legislative mandate (2005 Energy Policy Act, Sec 348(b) to "...maintain and improve public and agency access to accumulated and ongoing research..." that can be used "...to address the individual and cumulative effect is of past, on going and anticipated development activities. Through an assistance agreement from BLM to UAA we ensure the design and maintenance of NSSI public websites (https://northslopescience.org, https://northslopescience.org/catalog, and https://northslopescience.org/nuiqsut) that facilitate the discovery, distribution and archival of science-based data, developing new data and providing multi-agency decision support capacity. UAA also provides employment opportunities for UAA students that promote DOI/BLM science objectives.

Federal Muskox Hunt Game Management Unit 26A

As a result of Federal Wildlife Proposal 22-55, the Bureau of Land Management Arctic District Office issued 6 federal draw permits for a muskox subsistence hunt on federally managed lands in the Western Portion of Game Management Unit 26A. The hunt area includes that portion of the unit west of the eastern shore of Admiralty Bay where the Alaktak River enters, following the Alaktak River to 155°00'W longitude, south to

the GMU 26A border (Figure 1). This hunt is open to only federally qualified subsistence users residing in the eligible communities of Anaktuvuk Pass, Atqasuk, Utqiagvik, Nuiqsut, Point Hope, Point Lay, and Wainwright. The season for this hunt is August 1, 2022 to March 15, 2023, and is subject to closure at the discretion of the Arctic District Manager. To date, no musk ox harvest has been reported to the BLM, as per the permit requirements. For winter 2023-2024, BLM plans to issue 3 federal draw permits for a muskox subsistence hunt in conjunction with ADFG also issuing 3 state draw permits in 26A (Figure 1).

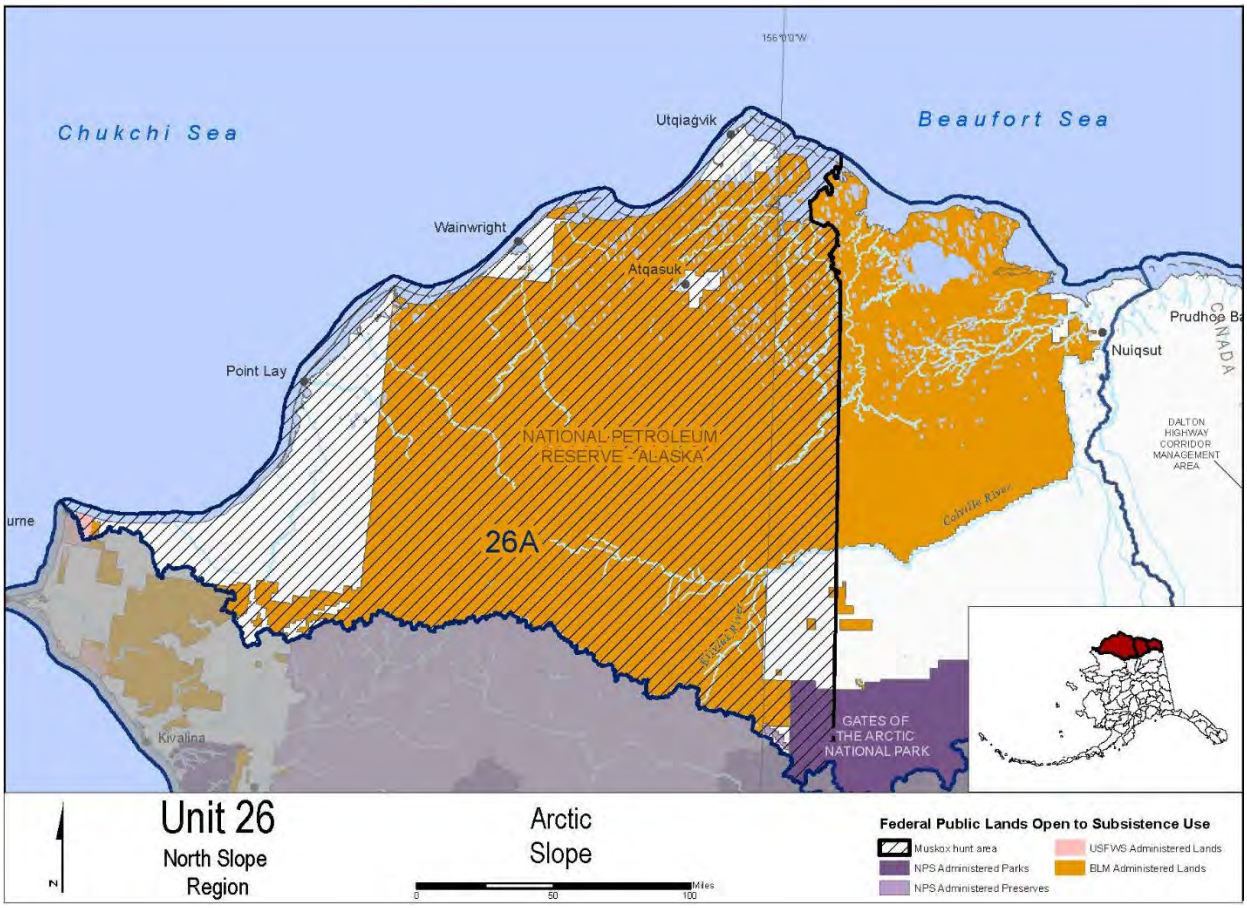

Figure 1: Open area for federal muskox hunt

Additionally, the State of Alaska has four state Tier II permits available for Unit 26A East of 153 W Longitude and Western 26B west of the Dalton Highway (TX108, Figure 2) and 3 state Tier II permits available for three state Tier II permits available for the west of the Topogoruk River following W156 longitude to the Unit 26A Southern Boundary (TX109, Figure 3). To harvest under the state hunts, subsistence users will need to apply for a Tier II permit. The application period for these permits (November 1- December 2022) has closed for the coming season.

Figure 2. State TX108 Muskox Hunt

Figure 3. State TX109 Muskox Hunt

Fire Season on the North Slope

This summer, 5 fires were discovered on the North Slope, and all were a result of lightning strikes. Although these fires resulted in burning tussocks and tundra, no suppression action was taken because these fires were not threatening any identified surface values. All the fires burned into natural barriers and received

precipitation from storms throughout the summer which caused them to go out naturally. All the fires were identified by satellite technology. The Rainbow fire was spotted by Visible Infrared Imaging Radiometer Suite (VIIRS) which a sensor attached to a joint NASA/NOAA satellite that detects heat signatures which is processed by UAF then displayed on the Alaska Fire Maps hosted by the AFS. The Kigalik fires were found by an Alaska Fire Service (AFS) GIS Specialist who was searching for fire scares and found what we call "Black Spots" which are fires that started and naturally went out without fire suppression organizations knowing about them. All the fires on the slope were managed by the AFS, Galena Zone located in Galena, AK. The largest fire (335 acres) was the Rainbow Fire #551 which was discovered on 7/11/2022 and was declared out on 7/31/2022.

Aerial view of the Rainbow Fire #551 (Photo Credit J. Keeney- BLM)

BLM Arctic Office Staff Information

Arctic District currently has a staff of 15 people. The Arctic District Office, located in Fairbanks, Alaska, manages surface resources in the NPR-A. We have a Community Outreach Specialist located in the community of Nuiqsut and are hoping to start the hiring process for a position in Utqiagvik soon.

Currently our office is working with our human resources department, so it may be some time before that position is advertised.

Heather Savage is trained to issue USFWS subsistence hunting permits through the Federal Subsistence Management Program. These permits allow holders to harvest additional caribou, beyond their individual take limit on behalf of specific community members who cannot or are unable to harvest caribou themselves. For additional information please refer to: https://www.doi.gov/subsistence.

The office has a budget of approximately $3.7 million. Roughly $1.7 million is spent on labor and about $1 million on our aviation program (a 100-day helicopter and fixed wing contract, fuel and runway maintenance). Much of the rest is spent through agreements and partnerships with UAF, USGS, USFWS, ADF&G and NSB on various hydrology, fish and wildlife monitoring studies.

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BLM Arctic District Office Resources Supervisor: Ted Inman: tinman@blm.gov, 907-474-2311

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BLM Willow Master Development Plan/EIS Project Lead: Carrie Cecil: ccecil@blm.gov; 907-271-1306
BLM Legacy Wells Program: Melody Debenham: kdebenham@blm.gov, 907-474-2307

BLM Arctic District Office Fish Biologist: Katie Drew: ksdrew@blm.gov, 907-474-2315

BLM Arctic District Office Wildlife Biologist: Heather Savage: hsavage@blm.gov, 907-474-2314

BLM Arctic District Office Wildlife Biologist: Debbie Nigro: dnigro@blm.gov, 907-474-2324

BLM Arctic District Office Archaeologist: Joe Keeney: jkeeney@blm.gov, 907-474-2312

BLM Arctic District Anthropologist: Beth Mikow: emikow@blm.gov, 907-474-2309

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BLM Arctic District Natural Resource Specialist: Ashley Sabatino: asabatino@blm.gov, 907-474-2303

BLM Arctic District Realty Specialist: Lonnie Bryant: lbryant@blm.gov, 907-474-2306

BLM Community Outreach Specialist: Jamie Kasak: jkasak@blm.gov, 907-474-2301

Permitting Links

- BLM Alaska Webpage: https://www.blm.gov/alaska
- BLM Arctic Office Permitting email: blm_ak_arctic_permitting@blm.gov
- BLM National Petroleum Reserve in Alaska (NPR-A) Webpage: https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/about/alaska/NPR-A
- BLM ePlanning (NEPA): https://eplanning.blm.gov/epl-frontoffice/eplanning/lup/lup_register.do
- Allows online review of and comment on BLM planning and implementation projects. This site also simplifies document searches by enabling searches by geographic location, project resource type, project year, and other specific fields.
- BLM NPR-A News Facebook Page: https://www.facebook.com/BLM.NPRA.SAP/